

CLAIMS

What is claimed is:

1. A controller for an induction heating system, comprising:  
a control circuit operable to control the application of power from a power source to an induction heating cable; and  
an interface circuit operable to electrically couple a plurality of conductors from a temperature feedback device to the control circuit, wherein the interface circuit also electrically couples each of the plurality of conductors to ground through a capacitor.
2. The controller as recited in claim 1, wherein the temperature feedback device is a thermocouple.
3. The controller as recited in claim 1, wherein the interface is operable to electrically couple a shielding conductor surrounding the plurality of conductors to ground.
4. The controller as recited in claim 1, wherein the capacitors are adapted to shunt to ground electrical signals at the frequency of electric current from the power source.
5. An extension cable for connecting a temperature feedback device to an induction heating system, comprising:  
a first electrical connector electrically coupleable to the temperature feedback device;  
a second electrical connector electrically coupleable to the induction heating system;  
a plurality of conductors electrically coupled to the first and second electrical connectors; and  
a shielding conductor surrounding the plurality of conductors.

6. The extension cable as recited in claim 5, wherein the first and second electrical connectors are adapted to electrically couple the shielding conductor.

7. The extension cable as recited in claim 5, wherein the extension is operable to electrically couple a plurality of temperature feedback devices to the induction heating system.

8. The extension cable as recited in claim 7, wherein the extension comprises a plurality of conductors and a shielding conductor for each of the plurality of temperature devices.

9. The extension cable as recited in claim 8, wherein the shielding conductors are electrically isolated.

10. The extension cable as recited in claim 8, wherein each extension comprises a first electrical connector housing at a first end, a second electrical connector housing at a second end, and an additional shielding conductor surrounding the plurality of conductors and a shielding conductor for each of the plurality of temperature devices, wherein the additional shielding conductor is electrically coupled to the first and second electrical connector housings.

11. An electronic system, comprising:  
an electronic circuit;  
a temperature feedback device having a plurality of conductors, wherein at least one of the temperature feedback device and the plurality of conductors is disposed within a magnetic field; and  
an interface operable to electrically couple the plurality of conductors to the first electronic circuit to transmit temperature data to the electronic circuit, wherein the interface

electrically couples the plurality of conductors to ground through at least one capacitor to couple electrical noise from the magnetic field to ground.

12. The system as recited in claim 11, wherein the temperature feedback device is a thermocouple.

13. The system as recited in claim 11, comprising an extension cable for coupling the temperature feedback device to the interface, the extension cable comprising a shield conductor surrounding the plurality of conductors, the shield conductor being electrically coupled to ground by the interface.

14. The system as recited in claim 11, wherein the electronic system produces the magnetic field.

15. The system as recited in claim 11, wherein the electronic system produces a radio-frequency electric current.

16. An electrical system, comprising:  
a temperature feedback device operable to produce a signal representative of temperature;  
an extension cable comprising:  
a plurality of conductors electrically coupleable to the temperature feedback device; and  
a conductive shielding disposed around the plurality of conductors; and  
an interface operable to electrically couple the plurality of conductors to an electrical circuit and to electrically couple the conductive shielding to ground.

17. The system as recited in claim 16, wherein the plurality of conductors are operable to electrically couple a plurality of temperature feedback devices to the electrical circuit.

18. The system as recited in claim 16, wherein the interface comprises a capacitor and the interface electrically couples the conductive shielding to ground via the capacitor.

19. The system as recited in claim 18, wherein the capacitance of the capacitor is selected to conduct electrical noise of a specific frequency.